1860MNRAS..20..292L

Day of Observation. 1860.	Satellite.	Phenomenon.	Mean Solar Time. h m s	Observer.
April 2	IV. shadow	Ingress, bisected	9 45 31·8	J. C.
7	I.	Ingress, last cont.	11 1 14·7	E.
16	I.	Egress, last cont.	9 40 37·1	C.
17	I.	Ecl. reapp.	8 4 26·5	E.
30	II.	Ecl. reapp.	11 27 41·7	K.

The initials E., C., J. C., and K., are those of Mr. Ellis, Mr. Criswick, Mr. Carpenter, and Mr. Kerschner.

Observations of the Satellite of Saturn, Hyperion.
By W. Lassell, Esq.

I send herewith a few observations of *Hyperion*, the recently discovered satellite of *Saturn*, which I acknowledge I have of late somewhat neglected.

I do not find that any observations of this satellite have been published since the rather extensive series I obtained in Malta (*Monthly Notices*, vol. xiii. p. 181), nor have I learned that *Hyperion* has ever been seen, except in Mr. Bond's telescope and mine. Perhaps the possessors of some of the admirable refractors which have lately been constructed may now give it a passing notice. I find it faint and difficult to observe, except in a clear and dark sky, with which I am not here too frequently favoured.

The last observation (April 25th) was made with the 4-foot equatoreal; the haziness of the sky and the neighbourhood of the young moon rendering it unlikely that *Hyperion* would be measurable in the 2-foot equatoreal.

The period of revolution I deduce from the enclosed, compared with the Maltese observations, is 21·286 days.

Referring back to the measures of 1848, immediately upon the discovery of the satellite, and concluding its saturnicentric longitude at 1848, Sept. 19·76, to have been 82°, the period would be 21·284 days.

As somewhat connected with the subject, I may take the opportunity of remarking that I do not find that the generally received period of the closest satellite, *Mimas*, satisfies my observations. Comparing those made in Malta with some recently obtained, I deduce a period of 0·9427843, fraction of a day.

The measurements are referred to the apparent transverse axis of *Saturn's* ring produced, and to the centre of the planet.

1860, April 14·406,	Satellite east of Saturn's centre	″ 204·2
	and north of axis of ring (estimated)	35·0

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1860, April 15·385,	Satellite east of Saturn's centre	″ 166·9
	and north of axis of ring	43·5
16·417,	Satellite east of Saturn's centre	84·9
	and north of axis of ring	50·1
20·458,	Satellite west of Saturn's centre	151·6
	and north of axis of ring	39·1
21·417,	Satellite west of Saturn's centre	192·2
	and north of axis of ring	33·5
23·396,	Satellite west of Saturn's centre	213·5
	and south of axis of ring	3·7
24·437,	Satellite west of Saturn's centre	198·5
	and south of axis of ring	16·0
25·427,	Satellite west of Saturn's centre	143·9
	and south of axis of ring	32·0

Bradstones, Sandfield Park, near Liverpool,
May 10, 1860.

On the Value of the Constant of Aberration as determined by Eight Years' Observations of γ Draconis, made with the Reflex Zenith Tube at the Royal Observatory, Greenwich.

By the Rev. Robert Main, M.A., President.

This paper, the author remarks, must be taken in connexion with a paper by him printed in the twenty-fourth volume of the *Memoirs* of the Society, which gave the discussion of the observations from 1837 to 1848, made with the 25-foot zenith tube of the Royal Observatory, for the determination of the constants of aberration and nutation. The results then found were unsatisfactory, the value of the constant of aberration being considerably smaller than the received value, and the value of the annual parallax being a negative quantity amounting to nearly four-tenths of a second of space. It became, therefore, a matter of interest to determine what result for the aberration would be given by the eight years' observations which have been since that time made with the reflex zenith tube, since from the simplicity of construction of the instrument no errors are to be dreaded arising from mechanical or instrumental causes.

For the tables on which the computations are based reference is made to the preceding paper, as well as for a general explanation of the methods used in forming and solving the equations of condition. These are 106 in number, arising from groups formed from 486 observations, and contain three unknown quantities, namely, the correction to the assumed mean

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